

For case study based courses, students will keep a journal where they respond to prompts similar to those shown below. The letter designations correspond to the foundational (F), meta (M), and humanistic (H) learning objectives.

- Journal Entry: Identify a disruptive change. [F]
 - What is the origin of the problem? When was the problem identified? What took place that triggered events? What was the widespread understanding and perception of the topic (scientific community vs. general populace) at the beginning of the period of study?
- Journal Entry: Consider *specific reference, figure, text* in a primary source. [F, M]
 - What trends can you identify? What conclusions can you make based on this data set? What are the limitations and the degree of certainty in the conclusions made from this information at that time? (Students will identify the *element* to consider based on their research.)
- Journal Entry: Compare and contrast primary and secondary sources such as journal articles, newspapers, news, social media, radio, podcasts. [F]
 - What information is the same? What is different? What is missing? How do these sources change or influence public perception?
- Journal Entry: Reflect on the progression of the case study and develop a timeline to show how knowledge evolved. [F]
 - What setbacks or failures occurred? What value was gained from these setbacks or failures? How was the original perception or understanding revised?
- Journal Entry: Identify the stakeholders surrounding a problem and their impact, perspective, experience, and influence. [H]
 - Students can empathize with the impact of various outcomes that are experienced or could be experienced by stakeholders. Who is most affected by the problem? Who has something to gain by finding a solution?
- Journal Entry: Identify constraints in communication between experts and novices. [M]
 - How do error and uncertainty complicate the use of scientific data in the formation of public policy? How should scientists present their work to maintain public confidence while being honest about the limits of current knowledge?
- Journal Entry: Identify the competing factors that shape the progress, outcomes, and intervention of science. [H]
 - Give examples of the interplay between science, policy, economics, special interest groups, and society.
- Journal Entry: Identify gaps in current knowledge or understanding. [F, M]
 - How is this issue still relevant? What might be contributing to these gaps?
- Journal Entry: Reflect on our work so far. [M]
 - What have you learned in examining this historical case that will inform your work on a contemporary example of the interactions between science and society?